Laboratory Environment Safety and Health Committee
Cryogenic Safety Subcommittee

MINUTES OF MEETING 03-09

October 21, 2003

FINAL

Committee Members Present	Committee Members Absent
W. Glenn	M. Iarocci
P. Kroon	S. Kane
E. Lessard (Chairperson)	P. Mortazavi
T. Monahan	M. Rehak
R. Travis* (Secretary)	
K. C. Wu	
(* non-voting)	

Visitors
H. Benveniste
C. Du
W. Gunther
C. Harris
W. Rooney
S. Shaw (Bruker Representative)
L. Stiegler

Agenda:

1. **Bldg. 490, Animal MRI Installation Description**
2. **Status of LESHC Animal MRI Action Items**

Minutes of Meeting: Appended on pages 2 through 3.

ESH COMMITTEE MINUTES APPROVED:

Signature on File	**11/6/03**
E. Lessard	**Date**
LESHC Chairperson	

Chairperson E. Lessard called the ninth meeting in 2003 of the Laboratory Environmental Safety and Health Committee (LESHC) to order on October 21, 2003 at 3:40 p.m.

1. **Bldg. 490, Animal MRI Installation Description:** W. Gunther, other Medical Department personnel, and S. Shaw of Bruker discussed the path forward for the Animal MRI. These Minutes and the related material are posted at: http://www.rhichome.bnl.gov/AGS/Accel/SND/laboratory_environemnt,_safety_and_health_committee.htm.

1.1. Mr. Gunther, Mr. Shaw and other attendees made the following points during the course of the presentation and in response to specific Committee questions:

1.1.1. The Animal MRI has abnormally high liquid nitrogen (LN2) boil off rate. The Medical Department (MO) is topping off the LN2 approximately every 4 days, as opposed to the 10 to 14 day interval that was expected.

1.1.2. The LN2 boil off will be measured to determine if the usage is within specifications.

1.1.3. If required, the determination of the liquid helium usage will involve daily flow measurements over a 7-day period to account for barometric variation.

1.1.4. Several ferrous pipes were replaced with PVC in the basement. Although the cold spot shifted, the Bruker Service Representative doesn't believe ferrous materials are the cause of the problem.

1.1.5. If the unit is indeed out of spec, it will have to be disassembled. The magnet would have to be de-energized, the cryo gases evacuated and the unit allowed to warm up to room temperature. Magnex would perform these activities. The process would require ~ 2.5 weeks, primarily for the warm up.

1.1.6. If the path forward requires MRI disassembly, the Committee would have to review the Magnex procedures for this activity. The Committee is particularly interested in the processes to de-energize the magnet and to purge the unit of the cryogens.

1.1.7. The Bruker Service Rep had previously submitted a job plan to the Medical Department that described the installation of the electronics for the Animal MRI (Bruker Memorandum, Scott Shaw to W. Gunther, "Installation Description", dated 10/17/03.) The Bruker work scope is expected to be reduced from the 10/17/03 job plan, Mr. Shaw will still require access to the Magnet Room.

1.1.8. The Magnet Room Access Procedure will have to be updated to authorize access for Mr. Shaw.

1.1.9. Mr. Shaw will not have to handle any cryogens or exposed conductors during the course of this work.

1.2. Status of LESHC Animal MRI Action Items

1.2.1. Two previous meetings (LESHC 03-06 and 07) were held to review the Animal MRI on 8/25 and 9/16/03, respectively. There are 26 actions that were developed during the meetings. Nine additional comments for Medical Department action were amended to the final version of LESHC 03-06 minutes as a result of comments during the review cycle.

1.2.2. The Medical Department committed to status the LESHC recommendations on a point-by-point basis[1].

1.2.3. The need for ODH calculations for all operations was discussed. The LESHC Chair will ask the C-A ESHQ Division Head (Ray Karol) to develop the calculation for the Animal MRI. Ray Karol has considerable experience in this area, as he has revised all of the ODH calcs for the Collider to conform to the SBMS Subject Area.

1.2.4. The Medical Department was requested to delineate the 5 and 50 gauss lines in the Magnet Room. In recognition that the field might change slightly if the magnet is reworked, the markings can be temporary.

1.3. The following motion was crafted by the Committee:

1.3.1. Motion No. 1 – As a prerequisite for Bruker access to the Magnet Room, the Medical Department must:

1.3.1.1. Amend the access procedure to include Scott Shaw (the Bruker Service Representative).

1.3.1.2. Develop or amend a procedure to document the emergency response to address an incapacitated individual in the Magnet room.

1.3.1.3. Proceed with the Bruker work as described in the 10/17/03 Bruker memo, "Installation Description", with the understanding that some tasks (or portions thereof) may be deferred based on the path forward for the repair of the magnet cold spot.

2. The Meeting was adjourned at 5:05 p.m.

[1] This status was provided prior to the issuance of these minutes. Please see BNL memo, C. Du to E. Lessard, “Summary of Responses to Safety Committee Comments”, dated October 23, 2003. The majority of the Committee recommendations have been addressed. However several items, including the ODH calculations, are ongoing.

ANIMAL MRI FACILITY SAFETY REVIEW; 10/21/03

1. Background/Status

2. Update by Bruker Service Representative

3. Path Forward for Acceptance Testing and Commissioning

4. Areas of Interest- ODH, Static Magnetic Field, Electrical Safety, Routine Measurements